AMSAT News Service Weekly Bulletins
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AMSAT NEWS SERVICE
ANS-225

ANS is a free, weekly, news and information service of AMSAT North America, The Radio Amateur Satellite Corporation. ANS reports on the activities of a worldwide group of Amateur Radio operators who share an active interest in designing, building, launching and communicating through analog and digital Amateur Radio satellites.

Please send any amateur satellite news or reports to:
ans-editor at amsat.org

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SB SAT @ AMSAT $ANS-225.01
ANS-225 AMSAT News Service Weekly Bulletins

AMSAT News Service Bulletin 225.01
>From AMSAT HQ SILVER SPRING, MD.
August 12, 2012
To All RADIO AMATEURS
BID: $ANS-225.01

Return Your AMSAT-NA Board of Directors Ballots by September 15

AMSAT Corporate Secretary, Alan Biddle, WA4SCA said, "By now, all members in good standing of AMSAT-NA should have received their ballots, including the position biographies by the candidates. We have a full slate of candidates this year. Remember, this is one of your best opportunities to make your views on the path of our organization known."

Additional information for those interested can be found in the minutes of the 2011 Board Meeting which appear in the current issue of the AMSAT Journal.

Select no more than three of the six listed candidates (in alphabetical order):

+ Tom Clark, K3IO
+ Steve Coy, K8UD
+ Mark Hammond, N8MH

+ Lou McFadin, W5DID
+ Gould Smith, WA4SXM
+ Patrick E. Stoddard, WD9EWK

The 3 candidates receiving the most votes will become directors serving 2 year terms. The 2 receiving the next highest number of votes will be seated as alternates for 1 year terms.

You must mail your ballot back to be received at the AMSAT-NA Office no later than the close of business on September 15, 2012:

   AMSAT
   850 Sligo Avenue, #600
   Silver Spring, MD 20910

[ANS thanks AMSAT Corporate Secretary, Alan Biddle, WA4SCA for the above information]

Hotel Information for the 2012 AMSAT Symposium in Orlando

The 2012 AMSAT Space Symposium and Annual Meeting will be held in Orlando, Florida on October 26 - 28, 2012. Information about the Symposium is posted as it becomes available at: http://www.amsat.org/amsat-new/symposium/2012/index.php

The Symposium Hotel is the Holiday Inn at Orlando-International Airport is located one mile from the Orlando International Airport (MCO). The AMSAT discount rate is $99 + taxes per night. The reservation block code used when calling the hotel directly is AMT.

The hotel telephone number is 407-851-6400. The Symposium Committee recommends you make reservations by calling the hotel directly rather than through the Web. Cutoff date for reservations is Oct 6, 2012. The direct link to the hotel web page is: http://www.holidayinn.com/hotels/us/en/orlando/mcoap/hoteldetail

The hotel offers free Internet connection and free airport shuttle. When you arrive at the Orlando Airport call 407-709-5310 to request the shuttle.

The Orlando International Airport (MCO) is the closest to the Symposium and is served by most major air carriers. The hotel address is: 5750 T.G. Lee Blvd Orlando, FL 32822. A map link is included on the hotel web page.

Watch for announcement from the Symposium Committee soon about the opening of registration. The cost of the Symposium is:

+ Symposium Registration including Proceedings
  o Through September 23, 2012: $ 45.00
  o Starting September 24, 2012: $ 50.00
  o At the Door: $ 55.00

+ Saturday Evening Banquet $ 45.00

+ Sunday Morning Area Coordinators Breakfast $ 15.00

+ Monday (Oct 29) bus trip to KSC and entrance ticket $ 100.00

[ANS thanks the 2012 Symposium Committee for the above information]

Dr. Mark Hammond N8MH to speak at Space Colloquium

The 27th AMSAT-UK International Space Colloquium will be held on the weekend of 15-16 September at the Holiday Inn Hotel, Guildford, GU2 7XZ, England close to the University of Surrey.

The full presentation schedule is being finalized and will be published shortly but, in the meantime we can confirm that it will be a truly international event. Among the many notable speakers will be Dr. Mark Hammond, N8MH from North Carolina. Mark is AMSAT-VP for Educational Relations and will be giving two presentations.

The first will include updates on significant AMSAT-NA developments, including information about activities related to International Traffic in Arms Regulations (ITAR) matters. He will also provide a general and technical update about the Fox family of CubeSats.

The second presentation will address the challenges presented by the current trend of justifying satellite construction and launches through STEM (Science, Technology, Engineering and Math) education. Specific hurdles faced by radio amateur satellite organizations will be highlighted. Progress made by AMSAT-NA through educational partnerships with the ARRL, NASA, and ARISS will be discussed.

The weekend event is open to all. It attracts an international audience that ranges from those involved in building and operating Amateur Radio satellites to beginners who wish to find out more about this fascinating branch of the hobby.

Tour Feature: SSTL Kepler Building

Colloquium attendees will have an opportunity to visit the satellite facilities in the new Surrey Satellite Technology Limited (SSTL) Kepler Building. The tour will include exclusive access to inspect the new SSTL clean room and integration facilities at the recently opened Kepler Building. If you have visited their previous facilities at the university campus, during previous Colloquia, you will be amazed by what is happening now.

There will be presentations by experts from AMSAT-SA, AMSAT-NA and AMSAT-DL on their current spacecraft projects. Also planned are CubeSat presentations on UKube-1, Strand-1 and, of course the FUNcube-1 project. We will be including an exclusive roundup of a number of new live and potential spacecraft projects that are under investigation and/or development. Additionally a number of presentations are planned covering new communications techniques and similar futuristic topics.

You'll be able to participate all the usual networking opportunities, the gala dinner and auction/raffle, plus the opportunity to operate the sophisticated groundstation in the GB4FUN mobile demonstration module.

All accommodation will be at the Holiday Inn hotel. Please note that the hotel will only hold our reserved rooms until 3 weeks prior to the event, ie until August 24. If you book after this date, you risk there not being a room available. Bookings for Fri/Sun nights, or ones made after this date cannot be guaranteed. Rooms and Saturday's Gala Dinner must be booked in advance in the AMSAT-UK shop.

For booking see: http://www.uk.amsat.org/colloquium/twelve

AMSAT-UK posted an article at: http://www.uk.amsat.org/9388
This page also contains the links which will allow you to find registration information for the Colloquium.

[ANS thanks AMSAT-UK for the above information]

Successful ARISS Contacts With Scouting Space Jam 6

Scouts attending Space Jam 6, which was held at the Octave Chanute Aerospace Museum in Rantoul, Illinois, participated in an ARISS contact with ISS astronaut Akihiko Hoshide, KE5DNI on Sunday, August 5. Hoshide was able to answer 22 space-related questions posed by the scouts before losing the radio connection. Space Jam focused on "The History of Aviation" this year and offered lessons on Space Exploration, Radio, Aviation, Electronics and Robotics among other STEM topics. Approximately 1000 scouts, leaders and parents turned out for Space Jam 6 this year.

Ken Holland, KC9TTR recorded the downlink from the contact and posted the audio at: http://www.youtube.com/watch?v=13COaiGaQ

[ANS thanks the Amateur Radio on the International Space Station (ARISS) Status Report by Carol Jackson, KB3LKI for the above information]

Postponed ELaNa Launch From Vandenberg Scheduled for August 14

The August 2, 2012 Atlas V rocket launch with a combination of 11 satellites from Vandenberg Air Force Base in California for the US Government and NASA ELaNa university cubesats was scrubbed due to a range instrumentation problem. This launch is now scheduled to lift off from Vandenberg on August 14.

The primary mission will launch a pair of US Navy Ocean Surveillance Satellites (NOSS). These satellites carry equipment to track ships and aircraft by triangulation of radio transmissions. The two NOSS satellites have a combined weight of 6500 kg. They will separate a few days after being placed into a 1100 km circular orbit at 63° inclination.

This is the first Atlas V launch with modified helium tanks in the Centaur upper stage. The change has created room in the aft skirt to accommodate 8 P-POD dispensers for cubesats. This launch carries 11 cubesats, to be released into 470 x 770 km, 63° orbit about 3 hours

after launch and following maneuvers by the Centaur upper stage.

The ELaNa Cubesats aboard are:
+ CINEMA (Cubesat for Ion, Neutral, Electron, Magnetic fields)
  o Downlinks for engineering telemetry and command are in the 2400-2450 MHz range; Science telemetry is in 2200-2300 MHz range.

+ CSSWE (Colorado Student Space Weather Experiment)

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  o Downlink 437.345 MHz, 9k6 with AX25

+ CP5 (PolySat)
  o Downlink 437.405 MHz at 1 watt, AFSK on LSB AX.25 over NRZI at
    1200 baud, every 2 minutes, begins 3.5 hours after first turn-on.

+ CXBN (Cosmic X-Ray Background Nanosatellite)
  o Downlink 437.525 MHz, GFSK, AX.25

The US Government Satellites aboard are:
+ Aeneas
  o First cubesat to deploy 2.4 GHz Dish Antenna. WIFI transmitter
    will transmit on 2425.0 MHz with 1 watt of output power.
  o Downlink 437.600 MHz AX25 1200 bps beacon every 10 seconds and
    spread spectrum two-way link elsewhere in the 70cm band.
+ ORSES (ORS Enabler Satellite)
+ Horus
+ Re
+ Aerocube 4A, 4B, 4C

Please refer to the prior bulletin for mission summaries and satel-
lite team web pages: http://amsat.org/pipermail/ans/2012/000637.html

A detailed article of the launch can be found on-line at:
http://www.americaspace.org/?p#568

[ANS thanks NASA, the CubeSat Teams noted above, AMSAT-UK, and
 Gunter's Space Page for the above information]


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ESA Announces New Educational Cubesat Initiative

AMSAT-UK has received notice that the European Space Agency's
Education Office is inviting the CubeSat community to send their
notifications of interest for a new initiative involving the dev-
elopment of educational picosatellites and the provision of de-
ployers and launch services. The call closes on 7 September 2012.

Following the successful launch of seven CubeSats on Vega's maid-
en flight in early 2012, ESA has decided to pursue further educa-
tional CubeSat-related activities.

In order to gather valuable information that will help better de-
fine the terms of its initiative, ESA's Education and Knowledge
Management Office needs to get an overview of the level of interest
both from educational CubeSat developers and from commercial suppli-
ers that are eligible to participate in the programme.

Call 1: Educational CubeSat development
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This call for Notification of Interest is open to institutions from
ESA Member States and Cooperating States which intend to develop
CubeSats for educational purposes.

Teams interested in participating are invited to send their Notifica-
tion of Interest to cubesats@esa.int

The email subject should be: "CubeSat opportunity " Name of the
proposed CubeSat project" and should be sent before 12:00 CEST
7 September 2012.
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Further information at:
http://www.esa.int/SPECIALS/Education/SEMRLXSX55H_0.html

ESA Towards a new educational CubeSat initiative
http://www.uk.amsat.org/9515

[ANS thanks AMSAT-UK for the above information]

Welcome to Gale Crater - Mars Science Laboratory Curiosity Lands

With Curiosity now safely on the surface of the Red Planet after its August 6 entry, descent and landing in Gale Crater, NASA's Mars Science Laboratory began its planned primary one-Martian-year (98-week) mission of discovery and exploration.

Re-live the entry, descent and landing at Jet Propulsion Labs:
http://www.youtube.com/watch?feature=player_embedded&v=ZY2JuuhZA

The Curiosity Mars Descent Imager (MARDI) captured the rover's descent to the surface. The instrument shot 4 frame per second video from heat shield separation to the arrival on the ground. The last few seconds show the dust being kicked up as the flying skycrane approached the surface:
http://www.youtube.com/watch?feature=player_embedded&v=GMDXy-Y1I

Watch the arrival on Mars in an exciting movie trailer format:
http://www.universetoday.com/96646/curiositys-awesome-landing-trailer/

This week the rover checked its health and determined its location, orientation and tilt on the surface of Mars. All initial spacecraft activities appear to have been completely nominal. The JPL control team next commenced with firing all of Curiosity's pyrotechnic devices for releasing post-landing deployments.

Spring-loaded deployments, such as removal of dust covers from the Hazard-Avoidance cameras (Hazcams) occurred shortly after landing enabling Curiosity to acquire images with its front and rear Hazcams.

Additional post-landing checkout activity included testing of the UHF telecommunications system and rover motor controller assembly. Approximately five megabytes of data were successfully relayed back to Earth from NASA's Mars Odyssey spacecraft during the first day.

Curiosity landed facing east-southeast within Gale Crater, with a heading of 112.7 degrees (plus or minus five degrees), and a few degrees of tilt.

The latest official mission information, photos, and video is always posted at: http://www.jpl.nasa.gov/msl/ - and -
http://solarsystem.nasa.gov/news/msl_landing.cfm

Finally, Curiosity Rover vehicle tires have tread patterns that imprint the acronym JPL in Morse Code in the dusty soil of the Mars surface. See the report on the ARRL web at:
http://tinyurl.com/MorseOnMars (www.arrl.org)

[ANS thanks NASA and JPL for the above information]

Pioneer of Radio Astronomy Sir Bernard Lovell Dies

The BBC reports pioneering astronomer and physicist Sir Bernard Lovell has died aged 98. He was the founder of University of Manchester's Jodrell Bank Observatory. Jodrell Bank is dominated by the iconic 76m (249ft) Lovell Radio Telescope, was completed in 1957. he telescope and his other contributions to radio astronomy led to him being knighted in 1961. He continued to come in to work at the Observatory until quite recently when ill health intervened.

The structure remains the third largest steerable telescope in the world and plays a key role in global research on pulsating stars, testing extreme physics theories including Einstein's general theory of relativity.

The BBC posted the news at:
http://www.bbc.co.uk/news/uk-england-19164236

[ANS thanks the BBC for the above information]

Raytheon Building the New Space Fence Radar

The Air Force expects to deploy its $3.5 billion space fence system by 2017 to improve its space debris tracking ten-fold. As many as 200,000 pieces of orbital debris can be tracked with the S-band radars.

Lockheed Martin competed with Raytheon for the contract mandating a scalable, solid-state S-band radar with a wavelength frequency capable of detecting objects far smaller than the half-century-old Air Force Surveillance System the new system will replace.

Lockheed Martin demonstrates their prototype space fence in a video:
http://www.youtube.com/watch?v=JdN90vT04&feature=player_embedded

Raytheon won the contract which they describe as multiphase acquisition program, leading to the delivery of up to three, globally positioned, S-band radars operating in the U.S. Space Surveillance Network. Raytheon posted information on-line at:
http://tinyurl.com/RaytheonSpaceFence (raytheon.com)

Amateurs can listen to meteor pings detected by the present generation of the Air Force Space Surveillance Radar in Texas at:
http://spaceweatherradio.com/

[ANS thanks CNET, Raytheon, and Lockheed Martin for the above information]

There's an App For That - ID Visible Satellite Flyovers

WhatSat - Satellite Explorer helps you identify and learn about satellites that you see passing overhead in the night sky. It can also be used as a satellite spotting aid. The satellite catalog includes 150 or so of the brightest orbiting objects as identified by NORAD.

For each satellite listed there is a description and an image (when available).

The first mode of operation allows you display a list of currently visible satellites if you see one passing overhead. The app shows you a ground track of the satellite to give you some idea where and how far away it actually is.

The second mode of operation gives you a list of what is visible with a visibility indicator, azimuth, and elevation to help you find satellites. This includes a map view of the ground tracks.

WhatSat requires cell service or WiFi to access the server that does satellite flyby calculations.

Read more information at:
https://play.google.com/store/apps/details?id=com.finchconsulting.whatsat

Editor's Note: This is not an AMSAT-NA product but is mentioned due to its applicability and potential interest to our readers with no endorsement implied.

[ANS thanks SpaceWeather.com for the above information]

Satellite Shorts From All Over

+ The AMSAT-NA On-line Store at http://store.amsat.org/ will be re-opening on August 13, 2012.

+ A QSL card is now available for AubieSat-1 / AO-71 reception. Operators desiring a confirmation of receipt for AO-71 are invited to send their signal reports to:

    Dr. J-M Wersinger, KI4YAU
    Allison Laboratories Room 210
    Auburn University, AL 36849

  Please note the date and time of receipt on your request (or your QSL card), as well as any other pertinent receiving information or conditions. Copies of the content of the CW signals you copied are requested, but not required. Any other questions regarding AubieSat-1 may be emailed to: jm.wersinger <at> gmail.com

+ JPL Infographics, a newly launched website and resource database from NASA's Jet Propulsion Laboratory, is inviting space aficionados and graphic wizards to take on a visual challenge by grabbing NASA data and transforming them into a scientific work of art. The website provides extensive collections of NASA science and mission data, graphics and space images that members of the public can download and use to create their own infographics - creative illustrations of complex data. Users can then upload their infographics, have them reviewed by JPL experts, and share their creations in a public gallery on the JPL website: http://www.jpl.nasa.gov/infographics/

+ KP2, U.S. Virgin Islands has been reported to be active on the linear satellites. (On the Birds!). Wyatt, AC0RA, reports that he made a QSO on August 2nd with Rich, KP2CT, from St. Thomas on FO-29 for his first satellite contact. Rich will initially focus

on operating via FO-29.

+ Listen for Jerry Brown, K5OE using his UK call M0GOE as he operates on the FM satellites during a family holiday next week from IO82 and IO81/82 border (Sunday thru Thursday), and IO72 (Wednesday, 15 Aug 2012, 1400z - 1630z). If he can get to the border between IO71/72 he will try that, but there might not be enough time. Nova Scotia, Quebec, and W1/2/3 should be in range to the west.

+ Jeff, KB2M says all the requested 13 Colonies special event QSL cards for his satellite operations from K2I (NJ), and K2E (DE) are in the mail. If anyone else who worked us wants a card please send a SASE to KB2M, at his address listed at QRZ.com.

+ New Stunning ISS Time-lapse: Earth Illuminated shows aurora, lightning, our Milky Way Galaxy, city lights and other sights as seen from orbit:
http://www.youtube.com/watch?v=UfMq-b0Uo&feature=player_embedded

+ The Sloan Digital Sky Survey III (SDSS-III) has released the largest three-dimensional map of massive galaxies and distant black holes ever created, and it pinpoints the locations and distances of over a million galaxies. It covers a total volume equivalent to that of a cube four billion light-years on a side. A video released with the map takes viewers on an animated flight through the Universe as seen by SDSS. There are close to 400,000 galaxies in the animation:
http://www.youtube.com/watch?feature=player_embedded&v=LBltePDZw

+ AMSAT Commemorative Shirt for the 2012 Symposium is only available by mail order. If you have not received a copy of the order form you can download and print a copy from the the link on the front page at: http://www.amsat.org. The deadline for receiving your mail order is September 21, 2012.

+ The next Hudson Valley Satcom net dates are Thursday, August 16, August 30, 8 PM EDT (UTC-4 UTC) on the 146.97 MHz MBARC Repeater (PL 100). An echolink connection is available on the N2EYH-L node. More information at: http://www.hvsatcom.org. (Stu, WA2BSS)

+ The Carpcomm Space Communication Network invites amateur satellite operators to participate and share cubesat information. Read more of their mission at: http://carpcomm.com/

+ Tom W5KUB says the webcasts on http://w5kub.com from the Huntsville Hamfest will go live Friday morning August 17 for the drive from Memphis to Huntsville. The Huntsville hamfest is August 18-19 with internet webcast streaming for the entire event.

[ANS thanks everyone for the above information]

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In addition to regular membership, AMSAT offers membership in the President's Club. Members of the President's Club, as sustaining donors to AMSAT Project Funds, will be eligible to receive additional benefits. Application forms are available from the AMSAT Office.

Primary and secondary school students are eligible for membership at one-half the standard yearly rate. Post-secondary school students

enrolled in at least half time status shall be eligible for the student rate for a maximum of 6 post-secondary years in this status. Contact Martha at the AMSAT Office for additional student membership information. And with that, please keep in mind like Earth, Mars has four seasons because the planet tilts on its axis. The seasons vary in length because of Mars' eccentric orbit around the sun. In the northern hemisphere, spring is the longest season at seven months. Summer and fall are both about six months long. Winter is only four months long. On average, the temperature on Mars is about minus 80 degrees F (minus 60 degrees C). In winter, near the poles temperatures can get down to minus 195 degrees F (minus 125 degrees C). A summer day on Mars may get up to 70 degrees F (20 degrees C) near the equator, but at night the temperature can plummet to about minus 100 degrees F (minus 73 C).

73,
This week's ANS Editor,
JoAnne Maenpaa, K9JKM